# *PAPILIO FATIMA* FABRICIUS, 1793 (INSECTA, LEPIDOPTERA): REQUEST FOR CONSERVATION UNDER THE PLENARY POWERS. Z.N.(S.) 2351

By Gerardo Lamas (*Museo de Historia Natural 'Javier Prado', Apartado 1109, Lima-100, Perú*), Robert E. Silberglied & Annette Aiello (*Smithsonian Tropical Research Institute, Apartado 2072, Balboa, Panamá*).

The name *Anartia fatima* (Fabricius, 1793), p. 81 has been discovered to be a junior primary homonym of *Emesis fatima* (Cramer, 1780), pp. 141, 174, pl. 271, figs. A,B,C,D), both having been originally described as *Papilio fatima*.

2. The homonymy has caused no confusion since both names have long been transferred (some 157 years ago) to other genera and belong, indeed, to two different families.

3. The name *Anartia fatima* is well known and is attached to thousands of museum specimens. It is the name of the most familiar and intensively studied butterfly of Central America (including Mexico). It is ubiquitous in disturbed habitats, and is generally the first and most common nymphalid seen by travellers in the moist tropics of this region. Due to its abundance and ease of capture, it has been the subject of, or a participant in, numerous biological studies, only a few of which are cited in the list of publications supporting the proposal. The species is familiar not only to the authors and readers of the scientific literature, but to hundreds of advanced students of ecology and evolutionary biology who have participated in field research programmes utilising it (such as the courses conducted in Costa Rica by the Organisation for Tropical Studies). The only common name for this butterfly is the same as the specific epithet, Fatima, and is published in the widely-distributed *Field Guide to the Butterflies* by Klots, 1951.

4. Significant features of the biology of this species, published in the evolutionary, ecological and behavioural literature, and associated with the name *Anartia fatima*, include: geographic range and variation, aberrations, chromosome number, morphology, complete life cycle, habitat preferences and daily activities of adults, larval host-plants, population structure, palatability to predators, behavioural role of wing coloration, change of wing-coloration with age, spectral range of vision, role as a pollinator, courtship behaviour, mating frequency, egg production and hybridisation with *A. amathea* in eastern Panama.

5. Additional studies on wing-damage by predators, detailed population biology, spermatophore transfer, interspecific

genetics and assortative mating with *A. amathea* are in preparation. This situation is in marked contrast to that of most tropical butterfly species, for which only a name is known.

6. If we were to follow the Code strictly, the nymphalid *Anartia fatima* (Fabricius), as a junior primary homonym of the riodinid *Emesis fatima* (Cramer), would be invalid. However, considering the large amount of literature published on that species, it would be in the best interest of a stable nomenclature if the name *Papilio fatima* Fabricius could be conserved.

7. The name *fatima* Fabricius was first transferred to a different genus by Godart, [1824], p. 375, who included it in *Nymphalis* Kluk, 1802, p. 86. The name *fatima* was first used in *Anartia* Hübner, [1819], p. 33 by Geyer *in* Hübner, 1837, p. 8. No junior synonym of *Anartia fatima* was published before the year 1907, when Fruhstorfer, 1907, p. 111 described *A. venusta*, proposed for what he thought was a different subspecies, but which is now known to represent an age-related phenotype of *A. fatima* (Silberglied *et al.*, 1980, and references therein). However, to our knowledge, *venusta* Fruhstorfer has been cited in print only a few times since its original description, and only four times at subspecific level: by Seitz, 1914, *The Macrolepidoptera of the World* (American Rhopalocera), vol. 5, pp. 462–463, pl. 94; by Hoffman, 1940, *An. Inst. biol. Univ. nac. autónoma México*, vol. 11, pp. 275–284 and *ibid*, vol. 11, pp. 639–739; and by Comstock and Vázquez, 1961, *ibid,* vol. 31, pp. 379–448. It has been cited at infrasubspecific level by Klots, 1951, *Field Guide to the Butterflies of North America east of the Great Plains* and by Silberglied *et al.*, 1980, *Psyche*, vol. 86 (2–3), pp. 219–260. Howe, 1975, *Butterflies of North America*, while using the name at infrasubspecific level, introduced confusion by reversing the association of the names with the characters that distinguish them, so that his form '*venusta*' is really the true *fatima*. The obscurity of the name *venusta* is shown by the fact that it is not mentioned by Emmel, 1972, Taylor, 1973, or Young & Stein, 1976, although their papers deal with the very character whose variability defines it.

8. The International Commission on Zoological Nomenclature is accordingly asked:

(1) to use its plenary powers to suspend the application of the Law of Homonymy to the specific name *fatima* Fabricius, 1793, as published in the binomen *Papilio fatima*, and to rule that that name is nomenclaturally valid;

(2) to place the above-mentioned name on the Official List of Specific Names in Zoology.

## REFERENCES

CRAMER, P. 1780. *Papillons Exotiques des Trois Parties du Monde &c.* vol. 3, 176 pp., pls. 193–288. 4° Amsterdam & Utrecht.

FABRICIUS, J.C. 1793. *Entomologia systematica &c.* vol. 3(1), [6], 487 pp. 8° Hafniae.

FRUHSTORFER, H. 1907. Uebersicht der bekannten *Anartia* und Beschreibung neuer Formen. *Internat. entomol. Z.* vol. 1, pp. 97, 101–102, 111–112.

GODART, J.B. [1824] (in LATREILLE, P.A. & J.B. GODART, 1819-[1824]). *Encyclopédie Méthodique. Histoire Naturelle.* [*Zoologie*] vol. 9. *Entomologie* ii, 828 pp. 4° Paris.

HÜBNER, J. 1816 [1826]. *Verzeichniss bekannter Schmettlinge* [sic]. pp. 431, 72. 8° Augsburg.

——1837. *Zuträge zur Sammlung exotischer Schmetterlinge &c.* vol. 5, 52 pp. 4° Augsburg.

KLUK, K. 1802. *Zwierzat domowych i dzikich &c.* vol. 4, 500 pp. 8° Warszawa.

SILBERGLIED, R.E., AIELLO, A. & LAMAS, G. 1980. Neotropical butterflies of the genus *Anartia*: systematics, life histories and general biology (Lepidoptera, Nymphalidae). *Psyche* (Cambridge) vol. 86, pp. 219–260.

## LIST OF TEN WORKS BY TEN DIFFERENT AUTHORS, PUBLISHED IN THE LAST TWENTY YEARS, ON EVOLUTIONARY, ECOLOGICAL AND BEHAVIOURAL STUDIES THAT USE THE NAME *ANARTIA FATIMA* (FABRICIUS 1793).

BARROWS, E.M. 1976. Nectar robbing and pollination of *Lantana camara* (Verbenaceae). *Biotropica* vol. 8, pp. 132–135.

BERNARD, G.D. 1979. Red-absorbing visual pigment of butterflies. *Science* vol. 203, pp. 1125–1127.

BOYDEN, T.C. 1976. Butterfly palatability and mimicry: experiments with *Ameiva* lizards. *Evolution* vol. 30, pp. 73–81.

EHRLICH, P.R. & EHRLICH, A.H. 1979. Reproductive strategies in butterflies: I. Mating frequency, plugging, and egg number. *J. Kansas Entomol. Soc.* vol. 51, pp. 666–697.

EMMEL, T.C. 1972. Mate selection and balanced polymorphism in the tropical nymphalid butterfly, *Anartia fatima. Evolution* vol. 26, pp. 96–107; see also *Evolution* vol. 27, pp. 164–165.

MAEKI, K. & REMINGTON, C.L. 1961. Studies of the chromosomes of North American Rhopalocera. 4. Nymphalinae, Charaxidinae and Libytheinae. *J. Lepidopt. Soc.* vol. 14, pp. 179–201.

SCHEMSKE, D.W. 1976. Pollinator specificity in *Lantana camara* and *L. trifolia* (Verbenaceae). *Biotropica* vol. 8, pp. 260-264.

SILBERGLIED, R.E., AIELLO, A., WINDSOR, D.M. 1980. "Disruptive" coloration in butterflies: lack of support in *Anartia fatima* (Lepidoptera, Nymphalidae). *Science* vol. 209, pp. 617–619.

TAYLOR, O.R., JR. 1973. A non-genetic "polymorphism" in *Anartia fatima* (Lepidoptera: Nymphalidae). *Evolution* vol. 27, pp. 161–164.

YOUNG, A.M. & STEIN, D. 1976. Studies on the evolutionary biology of the neotropical butterfly *Anartia fatima* in Costa Rica. *Contrib. Biol. Geol., Milwaukee Publ. Mus.* No. 8, pp. 1–29.